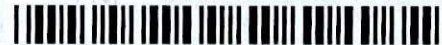




Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D205-634-041
Job Sheet 179006



Part No: D205-634-041

Job Qty: 1 ea

Part Name: Replacement Skidtube with Standard Wearplates Fits LH or RH



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/11/18

Job Tracking No:

Due Date: 6/28/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D2580 REV H SHEETS 1,2,3,8 IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ IPP Rev P 10.02.19 per PAR09-043 EC verified by:DD IPP Rev. O 06.02.28 Added paperwork EC IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q 10.12.01 as per chg003 DD verf:EC IPP REV:R 12.01.23 AS PER ECN11-684 VERF:EC IPP REV:S 17.12.08 REMOVE GASKET AS PER INTUITIVE INFO DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	6/28/18	6/28/18	0.00	0.00	Start Up Skidtubes		JL
110	CNC Bend Skidtubes	1 pcs	6/28/18	6/28/18	0.00	0.65	CNC Bend Skidtube		WILSON DP
120	Skidtubes	1 pcs	6/28/18	6/28/18	0.00	2.89	Skidtubes-2		JL
130	QC	1 pcs	6/28/18	6/28/18	0.00	0.00	QC5		BB
140	Skidtubes	1 pcs	6/28/18	6/28/18	0.00	2.89	Skidtubes-2		JL DAS BB
150	QC	1 pcs	6/28/18	6/28/18	0.00	0.00	QC10		38 DAS
160	QC	1 pcs	6/28/18	6/28/18	0.00	0.00	QC5		38 DAS
170	HandFinish	1 pcs	6/28/18	6/28/18	0.00	1.31	HandFinish1		SA 18-07-2018
180	Powdercoat	1 pcs	6/28/18	6/28/18	0.00	0.34	Powdercoat1		BL 18-07-2018
190	QC	1 pcs	6/28/18	6/28/18	0.00	0.00	QC3		38 DAS
200	HandFinish	1 pcs	6/28/18	6/28/18	0.00	1.31	HandFinish4		BE 18-07-2018
210	QC	1 pcs	6/28/18	6/28/18	0.00	0.00	QC5	DAS	38
220	Packaging	1 pcs	6/28/18	6/28/18	0.00	0.00	Packaging3-1	6	JUL 27 2018
225	DC	1 pcs	6/28/18	6/28/18	0.00	0.00	DC	9-89	21 38 DAS JUL 27 2018
230	QC21-FG	1 Ea	6/28/18	6/28/18	0.00	0.00	QC21		21 JUL 27 2018

Part Op 110 - 1-Bend as per program D2580.C on CNC Bender and Folio 16 2-Cut tubes as per Dwg. D2580 3- some batch# in Descriptions: aft end of tube

120 - 1- Deburr ends and remove bending marks 2- Prepare tube for welding as per QSI 004

140 - 1-Weld step D2576 as per Dwg. D2580 and QSI 004 2-Grind welds on step as per Dwg D2580 3- Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimentation. 4-Drill holes for wearplates using DT 8217 & DT8937, 7.40" from most fwd saddle holes (ref only) Open holes to 19/64", adjust stopper not to hit web.Deburr 5-Drill pilot holes for aft cap using DT 8215Open holes to 0.208". Deburr 6-Drill pilot holes for Tow ring using DT8091, open to .640"and Deburr

170 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

180 - START TIME: 3:35. OVEN TEMPERATURE: 800° FINISH TIME: 4:00.

200 - 1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates A/R Sikaflex-291 1138787 Sikaflex expire date: 18/12 2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580 3-Inspect for foreign object per QSI 024 4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive A/R Sikaflex-291 1138787 Sikaflex expire date: 18/12 5-Wing Walk as per Dwg D2580 and QSI 005 4.4 Batch: 11385080995

210 - Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

WORK ORDER NON-CONFORMANCE / UPDATE



DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermofforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																	
Date: _____		Step #: _____		QTY Effective: _____																																																	
Description Work Order Deviation																																																					
Root Cause <table border="1"> <tr> <td>Environment</td> <td>☐</td> <td>No Re-verification</td> <td>☐</td> </tr> <tr> <td>Design</td> <td>☐</td> <td>Operator</td> <td>☐</td> </tr> <tr> <td>Doc/Data</td> <td>☐</td> <td>Offset/Setup</td> <td>☐</td> </tr> <tr> <td>Equip/Tooling</td> <td>☐</td> <td>Supplier</td> <td>☐</td> </tr> <tr> <td>Handling/Pre</td> <td>☐</td> <td>Training</td> <td>☐</td> </tr> <tr> <td>Material</td> <td>☐</td> <td>Use for Testing</td> <td>☐</td> </tr> <tr> <td>Internal Transport</td> <td>☐</td> <td>Poor Information</td> <td>☐</td> </tr> <tr> <td>Tribal Knowledge</td> <td>☐</td> <td>Rushing</td> <td>☐</td> </tr> <tr> <td>LOA</td> <td>☐</td> <td>Product Improvement</td> <td>☐</td> </tr> <tr> <td>Substation</td> <td>☐</td> <td>Process Improvement</td> <td>☐</td> </tr> <tr> <td>Past Expiry Date</td> <td>☐</td> <td>Manufacturing Process</td> <td>☐</td> </tr> <tr> <td>Misidentified</td> <td>☐</td> <td>Past Due</td> <td>☐</td> </tr> </table> Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐						Environment	☐	No Re-verification	☐	Design	☐	Operator	☐	Doc/Data	☐	Offset/Setup	☐	Equip/Tooling	☐	Supplier	☐	Handling/Pre	☐	Training	☐	Material	☐	Use for Testing	☐	Internal Transport	☐	Poor Information	☐	Tribal Knowledge	☐	Rushing	☐	LOA	☐	Product Improvement	☐	Substation	☐	Process Improvement	☐	Past Expiry Date	☐	Manufacturing Process	☐	Misidentified	☐	Past Due	☐
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Dart Aerospace Ltd.
 1270 Aberdeen Street
 Hawkesbury, ON K84 1K7
 CANADA
 TEL.: 1 613 832-5200
 Email: sales@dartaero.com
 www.dartaerospace.com



Container No: S090722



Part: D205-634-041

Job No: 179006

Serial No/Batch: S090722

Revision: H

Inspector:

Exp Date:

Instructions:

Date: 07/11/18

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2580-1	205 Bent Tube	1 Ea (1 ea)	90-Start up Operation	5084330
D2576-3	Step (Machining Detail)	1 Ea (1 ea)	140-Skidtubes	5069014
D4202-1	Spacer	20 Ea (20 ea)	140-Skidtubes	5054571
ALS7-1032-130	Rivnut	50 Ea (50 ea)	200-HandFinish	33x50 45668/11x5084123.
AN3-5A	Bolt	2 Ea (2 ea)	200-HandFinish	5041106-1
AN3C4A	Bolt	50 Ea (50 ea)	200-HandFinish	5080186.
D2594-1	Plug	16 Ea (16 ea)	200-HandFinish	5059021
D2594-3	O-Ring	16 Ea (16 ea)	200-HandFinish	5084102.
D2855	Cap	1 Ea (1 ea)	200-HandFinish	5066018.
D3564-11	Wearplate Aft	1 Ea (1 ea)	200-HandFinish	5045366.
D3564-13	Wearpad Fwd	1 Ea (1 ea)	200-HandFinish	5081692.
D3564-5	Wearplate Center	1 Ea (1 ea)	200-HandFinish	5077530.
D3564-9	Wearplate Fwd	1 Ea (1 ea)	200-HandFinish	5080629.
NAS1149C0332R	Washer	50 Ea (50 ea)	200-HandFinish	5056443.
NAS1149D0332J	Washer	2 Ea (2 ea)	200-HandFinish	5020606-1

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2580-1	1	0	0
140-Skidtubes	D2576-3	1	34	0
	D4202-1	20	236	0
200-HandFinish	ALS7-1032-130	50	1,467	0
	AN3-5A	2	238	0
	AN3C4A	50	1,497	0
	D2594-1	16	345	0
	D2594-3	16	603	0
	D2855	1	84	0
	D3564-11	1	6	0
	D3564-13	1	5	0
	D3564-5	1	9	0
	D3564-9	1	8	0
	NAS1149C0332R	50	5,893	0
	NAS1149D0332J	2	1,829	0

Part Specifications

Specifications could not be found.

004686

ITEM	QTY -041	QTY -045	QTY -047	QTY -049	PART NUMBER	DESCRIPTION
1	X				D2580-041	SKIDTUBE ASSEMBLY
2		X			D2580-045	SKIDTUBE ASSEMBLY
3			X		D2580-047	SKIDTUBE ASSEMBLY
4				X	D2580-049	SKIDTUBE ASSEMBLY
20	1	1	1	1	D2500-1-190	EXTRUSION
21			16	16	D2570	BUSHING
22	1	1	1	1	D2578-3	STEP
23		4			D2579	SPACER
24	16	16	8	8	D2594-1	PLUG
25	16	16	8	8	D2594-3	O-RING
26	1	1	1	1	D2596	205 WEB
27	1	1	1	1	D2555	AFT CAP
28	1	1			D3564-5	WEARSHOE
29	1	1			D3564-9	WEARSHOE
30	1	1			D3564-11	WEARSHOE
31	1	1			D3564-13	WEARSHOE
32	20	20	24	24	D4202-1	SPACER
33			1		D4405-041	WEARPLATE ASSEMBLY
34			1		D4405-043	WEARPLATE ASSEMBLY
35				1	D5061-1	FWD WEARPLATE
36				1	D5061-3	AFT WEARPLATE
50	50	50			ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
51	50	50			AN3C4A	BOLT
52	2	2	2	2	AN3-5A	BOLT
53			8	8	AN4-4SA	BOLT
54	50	50			NAS1149C0332R	WASHER (AN880C10L)
55	2	2	2	2	NAS1149D0332J	WASHER (AN880JD10L)
56			8	8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- MATERIAL: N/A
- FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT (-041/-047/-049) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
POWDER COAT (-048) GREEN SANDTEX (REF 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: NONE
- WEIGHT: D2580-041 = 33.7 lbs
D2580-045 = 33.7 lbs
D2580-047 = 45.1 lbs
D2580-049 = 32.0 lbs
- WELDING PER DART QSI 004.
- INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALST-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241-291.
- INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (18 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047/-049)
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2555 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

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WITHOUT NOTICE
WORK ORDER
NO. 179006 NLS
180612

RELEASED

2017 JUL 05 4P
ECN17-518

H	SHEET: PL DELETE D3568-1/-5/-13 GASKETS, WEIGHTS UPDATED ACCORDINGLY. SHEETS 2 & 4 PICTORIAL UPDATE FOR REMOVAL OF GASKETS	SAD	17.06.09
G	ADDED -048, -047 WEIGHT UPDATED PER DSI 9598	AJS	14.04.09
F	INCORPORATE DEO D2580-E-1 PER PART12-218	DC	13.06.20
E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	06.08.26
B	AS MANUFACTURED	DS	06.12.02
A	NEW ISSUE	DS	06.08.16
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	SAD		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	17.06.09		

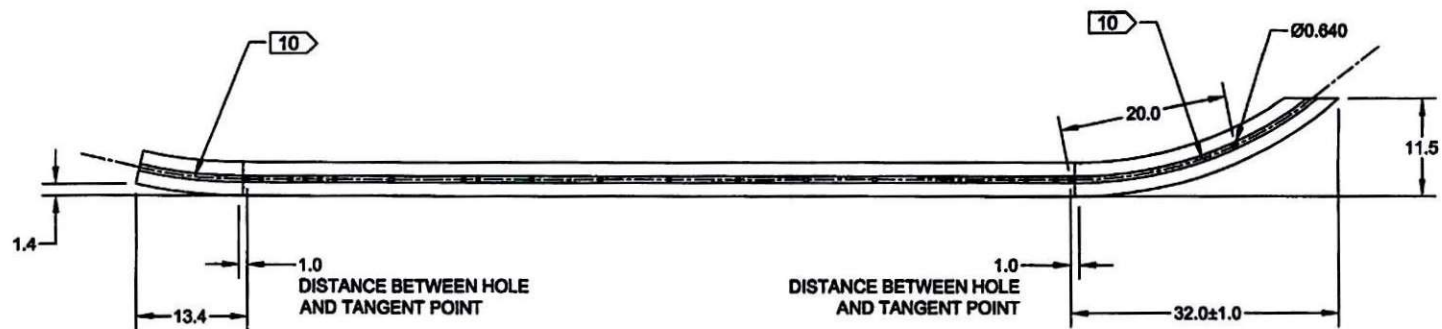
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2580
REV. H
SHEET 1 OF 9
SCALE NTS

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2017 JUL 05 *af*

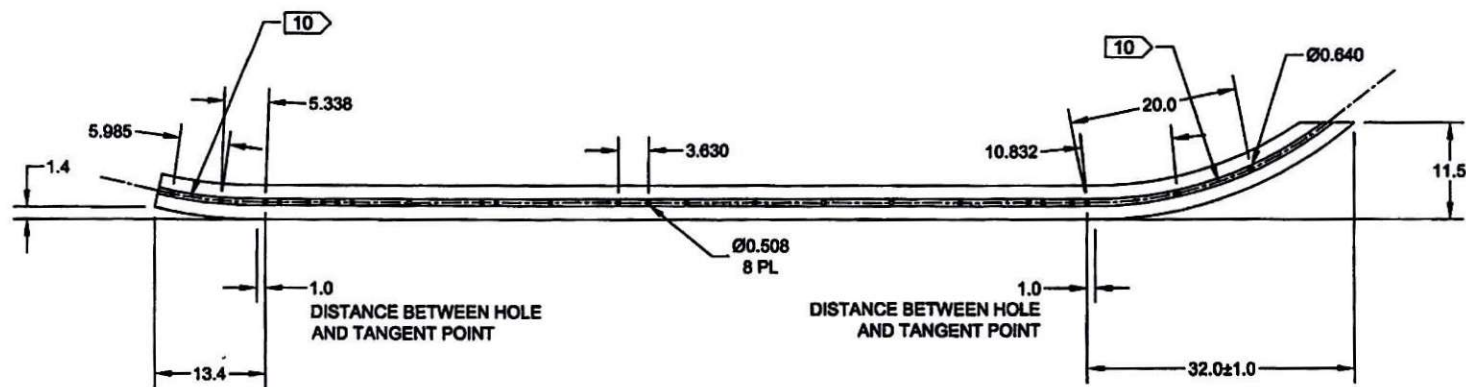
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MFG. APPR.	<i>[Signature]</i>	D2580	SHEET 2 OF 6
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DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2017 JUL 05 4P

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DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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D2580-7 BENT TUBE
(MAKE FROM D2580-101 TUBE)

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2017 JUL 05

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APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	205 SKIDTUBE ASSEMBLY	NTS
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